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Checklist for Writing Scientific Papers

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The checklist below lists should help you eliminate some common problems in writing scientific papers.

Please check the following items.

Before starting to write:

___ Make an Outline to construct the basic structure of the paper.
___ Decide who you are writing for & aim at that level.
___ Form a "thesis statement" - a short (1-3 sentence) statement of what you want the reader to understand as the most important point in your paper. This statement may end up appearing in the abstract or introduction.

While writing and making global revisions to the paper:

___ Double space your paper.
___ Check organization of the paper. Make sure it is consistent with the format requested.
___ See "Checklist for Global Revisions" in D. Hacker, *A Writer's Reference*, 2nd ed. (Bedford, 1992) pp. 24-5
___ Make sure that the text in each paragraph agrees with the opening sentence of the paragraph. Break the paragraphs by logical divisions.
___ Be careful of plagiarism in following the structure of another book too closely. (See D. Hacker, *A Writer's Reference*, 2nd ed. pp. 213-7)
___ Reference (endnote, footnote) any material, including apparatus diagrams, which is not your own or is not "common knowledge." Use a standard style for references (preferably the AIP Style Manual for physics papers).
___ All graphs, pictures, drawings, diagrams, sketches, etc. must be called a "Figure."
___ All Figures & Tables must be numbered (in order of appearance) and include a 1-3 sentence caption (if desired, they may be on a page of captions instead of the bottom of the figure).
___ All Figures & Tables must be referred to, by number, in the text.
___ All numeric values should have units and errors (if appropriate). Check significant figures.
___ Include the "accepted values" (with the uncertainty and a reference) for all constants (such as *c, e,* ...) from an official source such as Physics Today, August of each year (the front cover of Serway is not acceptable).
___ Make sure your conclusions logically follow from the analysis and discussion in the paper.
___ **Carefully read the whole paper!**

Proofreading the paper (at the sentence/paragraph level):

___ Carefully read the whole paper again!
___ Check the spelling. Be careful of correctly spelled words that are not correct (such as "than" instead of "that" or "excepted" instead of "accepted")
___ Avoid the first person (We or I) and contractions (wasn't, didn't, ...) whenever possible in scientific papers.
___ If a sentence is longer than about 2-3 lines, make sure it is not run-on or that you shouldn't rewrite it.
___ Check tense of verbs and remain consistent: Past Tense (was, were) Present Tense (is, are).

___ Check noun/verb agreement (singular/plural): The coil's diameter were measured ...
___ Check punctuation. Equations should be punctuated in a sentence as if it were a word.
___ Avoid unnecessary words (replace phrases like "due to the fact that" with "because" or "in order to" with "to")
___ Make sure you write in any equations, greek characters, etc. which you did not type into the paper.
___ **Carefully read the whole paper still again!**
___ ***While you are at it, carefully read the whole paper one more time!***